

06/18/2007

ECC 63 Herb Hill Road Glen Cove, NY 11542 **STL Edison** 777 New Durham Road Edison, NJ 08817

Tel 732 549 3900 Fax 732 549 3679 www.stl-inc.com

Attention: Mr. Theodore Johnson

## Laboratory Results Job No. G856 - Li Tungsten

### Dear Mr. Johnson:

Enclosed are the results you requested for the following sample(s) received at our laboratory on May 26, 2007.

Lab No.	Client ID	Analysis Required
833308	5601-FSS-PC-1010	As
		Pb
833309	5601-FSS-PC-1011	As
		Pb
833310	5601-FSS-PC-1012	As
		Pb
833311	5601-FSS-PC-1013	As
		Pb
833312	5601-FSS-PC-1015	As
		Pb
833313	5601-FSS-PC-1016	As
		Pb
833314	5601-FSS-PC-1017	As
		Pb
833315	5601-FSS-PC-1018	As
		Pb
833316	5601-FSS-PC-1019	As
		Pb
833317	5601-FSS-PC-1022	As
		Pb
833318	5601-FSS-PC-1023	As





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## Laboratory Results Job No. G856 - Li Tungsten (cont'd)

Lab No.	Client ID	Analysis Required
		Pb
833319	5601-FSS-PC-1024	As
		Pb
833320	5601-FSS-PC-1029	As
		Pb
833321	5601-FSS-PC-1030	As
		Pb
833322	5601-FSS-PC-1037	As
		Pb
833323	5601-FSS-PC-1038	As
		Pb
833324	5601-FSS-PC-1040	As
	7.01 FIG. 50 10 11	Pb
833325	5601-FSS-PC-1041	As





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Laboratory Results
Job No. G856 - Li Tungsten (cont'd)

<u>Lab No.</u> <u>Client ID</u> <u>Analysis Required</u>

Pb

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If you have any questions, please contact me at (732) 549-3900.

Very Truly Yours,

Michael Legg Project Manager



Analytical Results Summary	1
General Information  Chain of Custody  Laboratory Chronicles  Methodology Review  Data Reporting Qualifiers  Non-Conformance Summary	20 20 23 42 46 48
Metals Forms and Data  Analytical Results Summary  Blank Results Summary  Calibration Summary  ICP Interference Check Results Summary  Spike Sample Recovery Summary  Sample and MS Duplicate Results Summary  Laboratory Control Samples Results Summary  Analysis Run Log	<b>50</b> 50 70 73 77 81 84 87 90
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## **Analytical Results Summary**

Client ID: **5601-FSS-PC-1010** Lab Sample No: 833308

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 23.8

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u> Qual</u>	<u>M</u>	
Arsenic Lead	3.8 51.7	1.2 0.71		P P	

Client ID: 5601-FSS-PC-1011

Lab Sample No: 833309

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID Date Received: 05/26/07 Level: LOW

% Moisture: 3.4

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Limit</u>	Qual	<u>M</u>
Arsenic	8.5	0.97		P
Lead	21.4	0.56		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report) M Column - Method Code (See Section 2 of Report)

3

Client ID: 5601-FSS-PC-1012

Site: Li Tungsten

Lab Sample No: 833310

Lab Job No: G856

Date Sampled: 05/25/07 Date Received: 05/26/07 Matrix: SOLID Level: LOW

% Moisture: 25.8

## METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	<u>M</u>
Arsenic	47.0	1.3		P
Lead	9.3	0.73		P

Client ID: 5601-FSS-PC-1013 Lab Sample No: 833311

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 14.8

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Arsenic	12.0	1.1		P
Lead	14.7	0.63		P

Client ID: **5601-FSS-PC-1015** Lab Sample No: 833312

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 18.7

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u>Qual</u>	<u>M</u>
Arsenic	2.0	1.2		P
Lead	16.2	0.66		Þ

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report) M Column - Method Code (See Section 2 of Report)

6

Client ID: **5601-FSS-PC-1016** Lab Sample No: 833313

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 37.0

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	_Qual_	<u>M</u>
Arsenic	2.4	1.5		P
Lead	29.4	0.86		P

Client ID: 5601-FSS-PC-1017

Site: Li Tungsten

Lab Sample No: 833314

Lab Job No: G856

Date Sampled: 05/25/07 Date Received: 05/26/07

Matrix: SOLID Level: LOW

% Moisture: 24.8

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u> Oual</u>	<u>M</u>
Arsenic	3.6	1.2		P
Lead	23.5	0.72		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report) M Column - Method Code (See Section 2 of Report)

8

Client ID: **5601-FSS-PC-1018** Lab Sample No: 833315

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 9.8

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	<u>M</u>
Arsenic	2.7	1.0		P
Lead	7.0	0.60		P

Client ID: **5601-FSS-PC-1019** Lab Sample No: 833316

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 10.3

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	<u>M</u>
Arsenic	1.2	1.0		P
Lead	14.4	0.60		P

Client ID: **5601-FSS-PC-1022** Lab Sample No: 833317

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 45.6

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u>Q</u> ual	<u>M</u>
Arsenic Lead	13.2 277	1.7		P

Client ID: 5601-FSS-PC-1023 Lab Sample No: 833318

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 43.7

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Limit</u>	<u> Oual</u>	<u>M</u>
Arsenic	7.3	1.7		P
Lead	92.5	0.96		P

Client ID: 5601-FSS-PC-1024

Site: Li Tungsten

Lab Sample No: 833319

Lab Job No: G856

Date Sampled: 05/25/07 Date Received: 05/26/07

Matrix: SOLID

Level: LOW

% Moisture: 23.4

#### METALS ANALYSIS

	Analytical			
	Result Units: mg/kg	Instrument Detection		
<u>Analyte</u>	(Dry Weight)	<u>Limit</u>	<u>Qual</u>	<u>M</u>
Arsenic	5.2	1.2		P
Lead	50.5	0.70		P

Client ID: 5601-FSS-PC-1029 Lab Sample No: 833320

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID Date Received: 05/26/07 Level: LOW

% Moisture: 36.3

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Limit</u>	Qual	<u>M</u>
Arsenic	22.9	1.5		P
Lead	135	0.85		P

Client ID: 5601-FSS-PC-1030 Lab Sample No: 833321

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 17.0

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Oual	<u>M</u>
Arsenic	4.9	1.1		P
Lead	36.0	0.65		P

Client ID: **5601-FSS-PC-1037** Lab Sample No: 833322

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 15.1

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u>Q</u> ual	M
Arsenic	18.3	1.1		P
Lead	18.0	0.64		P

Client ID: 5601-FSS-PC-1038 Lab Sample No: 833323

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID Date Received: 05/26/07 Level: LOW

% Moisture: 39.9

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Arsenic	26.6	1.6		P
Lead	141	0.90		Þ

Client ID: **5601-FSS-PC-1040** Lab Sample No: 833324

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 19.3

#### METALS ANALYSIS

Analytical Result Instrument Units: mg/kg Detection <u>Analyte</u> (Dry Weight) <u>Limit</u> <u> Oual</u> Arsenic 3.1 1.2 ₽ Lead 24.0 0.67 р

Client ID: **5601-FSS-PC-1041** Lab Sample No: 833325

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID Date Received: 05/26/07 Level: LOW

% Moisture: 17.7

### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Li</u> mit	Qual	<u>M</u>
Arsenic	26.1	1.1		P
Lead	20.3	0.66		P

## **General Information**

Chain of Custody

Environmental Chemical Comoration	al Cornoration								
1746 Cole Blvd.	al colporation								
Bldg. 21, Suite 350								18 H	
Lakewood, CO 80401									
Phone: (303) 298-7607								Į PĄ	
Fax: (303) 298-7837					Ų	COC Number:		h	
Customer Manne: ECC – LI lungsten Address: 63 Herb Hill Road, Glen Cove, NY 11542	lungsten , Glen Cove, NY 1154	5	744	1.64 5856	3 4	ECC Project Manager:_Phil O'Dwyer Address: 63 Herb Hill Road, Glen Cove, NY 11542	ger:_Phil O'Dwyer	yer Cove, N	/ 11542
Contact: Theodore Johnson			1000 1000	) }					
Phone: (303) 472 - 8834 Fax: (516) 665- 8531	_				<u>a. O</u>	Phone: (614) 402 - 2020 Customer Project Name: Li Tungsten	2020 Vame: Li Tung:	sten	
SAMPLE NUMBER	DATE	TIME	TYPE	CLIENT SAMPLE IDENTIFIER	DENTIFIER	TESTS	CONTAINED	15/63	MATDIX
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5601 -FSS-PC-1012 •	5/25/2007	10:50	FSS	3/0 Parcel C			1 glass jar	<u>ia</u> .	Soil
3601 -FSS-PC-1013 ·	5/25/2007	11:16	FSS	3// Parcel C			1 glass iar	ar	Soil
3601 -FSS-PC-1015 €	5/25/2007	11:35	FSS	3/2 Parcel C			1 glass jar	jar	Soil
3601 -FSS-PC-1016 €	5/25/2007	11:30	FSS	3/3 Parcel C		Total Lead & Arsenic	<u> </u>	<u>ia</u>	Soil
3601 -FSS-PC-1017	5/25/2007	11:30	FSS	314 Parcel C			1 alass iar	<u>ā</u> ,	Soil
3601 -FSS-PC-1018 ▶	5/25/2007	11:40	FSS	3/5 Parcel C			1 alass iar	ja.	Soil
601 -FSS-PC-1019	5/25/2007	10:30	FSS	)ε Parcel C			1 glass jar	ä	Soil
601 -FSS-PC-1022	5/25/2007	11:20	FSS	317 Parcel C			1 glass jar	ă,	Soil
601 -FSS-PC-1023	5/25/2007	12:20	FSS	J/8 Parcel C			1 glass lar	<u>a</u>	Soil
Notes: Ship to: Severn Trent Laboratory, EDISON 77 New Durham Road, Suite 7, Edison, New Jersey, 08817	ory, EDISON 7, Edison, New Jerse	iy, 08817	Samples c	Samples cooled below 4 C		Laboratory Receipt Information Cooler/Container Intact? Samples Received At Below 4 to	1	ي ار	92
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	al Corporation									
Bidg. 21, Suite 350										
Lakewood, CO 80401										
-none: (303) 298-7607 -ax: (303) 298-7837										
Sustomer Name: ECC - Li Tungsten	Tungsten					COC Number:	nber:			
Address: 63 Herb Hill Road, Glen Cove, NY 11542	l, Glen Cove, NY 115	42		:	(	ECC Proj	ECC Project Manager:_ Address: 63 Herb Hill D	ECC Project Manager: Phil O'Dwyer		
Contact: Theodore Johnson	=			JOB # 6856	8.26			rodu, Gieri co	ve, NY 1194	2
hone: (303) 472 - 8834 ax: (516) 665- 8531						Phone: ( Custome	Phone: (614) 402 - 2020 Customer Project Name	Phone: (614) 402 - 2020 Customer Project Name: Li Tungsten	_	<del></del>
SAMPLE NUMBER	DATE	TIME	TYPE	I CLIENT SAM	CLIENT SAMPI FIDENTIFIED		TECTO		ľ	
601 -FSS-PC-1024 .	5/25/2007	10:35	FSS	8333/9 Pa	Parcel C		2	CONTAINER(S)	È 	ž
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301 -FSS-PC-1037	5/25/2007	11-16	ESS	1	Parcel C	1		1 glass jar	Soil	
301 -FSS-PC-1038	5755007	2	22		Parcel C	1014	Total Lead & Arsenic	1 glass jar	Soil	
ST	1007/67/6	10:55	FSS	323 Pa	Parcel C			1 glass jar	Soil	
<b>[</b> ]	5/25/2007	11:00	FSS	324 Pa	Parcel C			1 glass jar	Soil	<u> </u>
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iip to: Severn Trent Laboratory, EDISON 7 New Durham Road, Suite 7, Edison, New Jersey, 08817 one: 732-549-3900 quest Tumaround Time: 3 Day	ну, EDISON 7, Edison, New Jerse Day	y, 08817	Samples c	Samples cooled below 4 C	C)	Laboratory Cooler/Con Samples R Samples C	Laboratory Receipt Information Cooler/Container Intact? Samples Received At Below 4 C? Samples Containers Intact?		2 2 g	
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nt:					Print					
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**Laboratory Chronicles** 

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833308	Date Received:	5/26/2007
			00110

Matrix: SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833309	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833310	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833311	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833312	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833313	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833314	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833315	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833316	Date Received:	5/26/2007
			00110

Matrix: SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

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Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833317	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833318	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833319	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

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Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833320	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833321	Date Received:	5/26/2007
		•	COLID

Matrix: SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833322	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833323	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833324	Date Received:	5/26/2007
		Matrix:	SOLID

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673

# 777 New Durham Road, Edison, New Jersey 08817

Job No:	G856	Site:	Li Tungsten
Client:	ECC	Date Sampled:	5/25/2007
Sample No.:	833325	Date Received:	5/26/2007
•		Matrix	

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
ARSENIC	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
LEAD	5/30/2007	Sanagavarapu, Suguna	5/30/2007	Polidori, Michael	22673
			-		

Methodology Review

## Analytical Methodology Summary

### Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2 Rev 4.1. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B.

#### Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

### GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

## Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

## Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

### Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

- P Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)
- A Flame Atomic Absorption
- F Furnace Atomic Absorption
- CV Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method - 200.7/SW846 6010B and for solid matrix - 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1/7470A and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

Element	Water Test Method <u>Furnace</u>	Solid Test Method Furnace
Antimony	200.9	7041
Arsenic	200.9	7060A
Cadmium	200.9	7131A
Lead	200.9	7421
Selenium	200.9	7740
Thallium	200.9	7841

#### Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

#### Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in water and solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

### Hexavalent Chromium:

Water samples are analyzed using EPA Method 7196A, EPA Method 7199 or (upon request) USGS -1230-35. Soil samples are subjected to alkaline digestion via EPA Method 3060A prior to analysis by EPA Method 7196A or EPA Method 7199.

#### Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

#### Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability - Method 1020A

Corrosivity - Water pH Method 9040B Soil pH Method 9045C

Reactivity - Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release

Toxicity - TCLP Method 1311

#### Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 18th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

## ORGANIC DATA REPORTING QUALIFIERS

- ND The compound was not detected at the indicated concentration.
- J Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than or equal to the method detection limit. The concentration given is an approximate value.
- B The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
- P For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
  - \* For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

## INORGANIC DATA REPORTING QUALIFIERS (SW-846 METHODS ONLY)

- ND/U The compound was not detected at the indicated concentration.
- B Reported value is less than the Practical Quantitation Limit but greater than or equal to the Instrument Detection Limit.
- E The reported value is estimated because of the presence of interference. See explanatory note in the Nonconformance Summary if the problem applies to all of the samples or on the individual Inorganic Analysis Data Sheet if the problem is isolated.
- M Duplicate injection precision not met on the Furnace Atomic Absorption analysis.
- N The spiked sample recovery is not within control limits.
- S The reported value was determined by the Method of Standard Additions (MSA).
- \* Duplicate Analysis is not within control limits.
- W Post digestion spike for Furnace Atomic Absorption analysis is out of control.
- + Correlation coefficient for MSA is less than 0.995.
- M Column Method Qualifiers
- P Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- A Flame Atomic Absorption Spectroscopy (FAA).
- F Graphite Furnace Atomic Absorption Spectroscopy (GFAA).
- CV Cold Vapor Atomic Absorption Spectroscopy.

Non-Conformance Summary



# **Nonconformance Summary**

STL Edison Job Number: <u>G856</u>

Client: ECC

**Date:** 6/13/2007

## Sample Receipt:

Sample delivery conforms with requirements.

## **Metals:**

All data conforms with method requirements.

I certify that the test results contained in this data package meet all requirements of NELAC both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this package has been authorized by the Laboratory Director or their designee, as verified by the following signature.

Michael Legg Project Manager

# **Metals Forms and Data**

Analytical Results Summary

Client ID: 5601-FSS-PC-1010

Site: Li Tungsten

Lab Sample No: 833308

Lab Job No: G856

Date Sampled: 05/25/07 Date Received: 05/26/07

Matrix: SOLID Level: LOW

% Moisture: 23.8

## METALS ANALYSIS

	Analytical	_		
	Result Units: mg/kg	Instrument Detection		
<u>Analyte</u>	(Dry Weight)	Limit	<u> Oual</u>	<u>M</u>
Arsenic	3.8	1.2		P
Lead	51.7	0.71		P

Client ID: **5601-FSS-PC-1011** Lab Sample No: 833309

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID Date Received: 05/26/07 Level: LOW

% Moisture: 3.4

## METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u> Oual</u>	<u>M</u>
Arsenic	8.5	0.97		P
Lead	21.4	0.56		P

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 25.8

## METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	_Qual_	<u>M</u>
Arsenic	47.0	1.3		P
Lead	9.3	0.73		P

Client ID: 5601-FSS-PC-1013 Lab Sample No: 833311

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 14.8

### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	<u>M</u>
Arsenic	12.0	1.1		P
Lead	14.7	0.63		Þ

Client ID: 5601-FSS-PC-1015 Lab Sample No: 833312

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 18.7

### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Limit</u>	Qual	<u>M</u>
Arsenic	2.0	1.2		P
Lead	16.2	0.66		P

Client ID: 5601-FSS-PC-1016 Lab Sample No: 833313

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 37.0

## METALS ANALYSIS

Analytical

<u>Analyte</u>	Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	<u>M</u>
Arsenic	2.4	1.5		P
Lead	29.4	0.86		P

Client ID: **5601-FSS-PC-1017** Lab Sample No: 833314

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 24.8

### METALS ANALYSIS

Analytical Result Instrument Detection Units: mg/kg <u>Analyte</u> (Dry Weight) \_\_\_Limit <u>Qual</u> M Arsenic 3.6 1.2 ₽ Lead 23.5 0.72 Ρ

Client ID: **5601-FSS-PC-1018**Lab Sample No: 833315

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID Date Received: 05/26/07 Level: LOW

% Moisture: 9.8

# METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Oual	M
Arsenic	2.7	1.0		P
Lead	7.0	0.60		P

Client ID: **5601-FSS-PC-1019** Lab Sample No: 833316

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID Date Received: 05/26/07 Level: LOW

% Moisture: 10.3

### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u> </u>	<u>M</u>
Arsenic	1.2	1.0		P
Lead	14.4	0.60		P

Client ID: 5601-FSS-PC-1022

Site: Li Tungsten

Lab Sample No: 833317

Lab Job No: G856

Date Sampled: 05/25/07 Date Received: 05/26/07

Matrix: SOLID Level: LOW

% Moisture: 45.6

## METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Limit</u>	Qual	M
Arsenic	13.2	1.7		P
Lead	277	0.99		P

Client ID: **5601-FSS-PC-1023** Lab Sample No: 833318

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 43.7

## METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	<u>M</u>
Arsenic	7.3	1.7		P
Lead	92.5	0.96		P

Client ID: 5601-FSS-PC-1024 Lab Sample No: 833319

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 23.4

## METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	<u> Oual</u>	M
Arsenic Lead	5.2	1.2		₽
пеац	50.5	0.70		₽

Client ID: **5601-FSS-PC-1029** Lab Sample No: 833320

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 36.3

### METALS ANALYSIS

Analytical Result Instrument Units: mg/kg Detection <u>Analyte</u> (Dry Weight) Limit <u>Qual</u> <u>M</u> Arsenic 22.9 1.5 ₽ Lead 135 0.85 Ρ

Client ID: **5601-FSS-PC-1030** Lab Sample No: 833321

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 17.0

## METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Limit</u>	Qual	<u>M</u>
Arsenic	4.9	1.1		P
Lead	36.0	0.65		P

Client ID: 5601-FSS-PC-1037

Site: Li Tungsten

Lab Sample No: 833322

Lab Job No: G856

Date Sampled: 05/25/07 Date Received: 05/26/07

Matrix: SOLID Level: LOW

% Moisture: 15.1

### METALS ANALYSIS

<u>Analyte</u>	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection <u>Limit</u>	<u>Qual</u>	<u>M</u>
Arsenic	18.3	1.1		P
Lead	18.0	0.64		Þ

Client ID: 5601-FSS-PC-1038 Lab Sample No: 833323

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 39.9

## METALS ANALYSIS

	Analytical				
	Result	Instrument			
	Units: mg/kg	Detection			
<u>Analyte</u>	(Dry Weight)	<u>Limit</u>	<u>Qual</u>	<u>M</u>	
Arsenic	26.6	1.6		P	
Lead	141	0.90		Þ	

Client ID: 5601-FSS-PC-1040 Lab Sample No: 833324

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 19.3

# METALS ANALYSIS

Analytical Result Instrument Units: mg/kg Detection <u>Analyte</u> (Dry Weight) <u>Limit</u> <u> Oual</u> M Arsenic 3.1 1.2 ₽ Lead 24.0 0.67 Ρ

Client ID: **5601-FSS-PC-1041** Lab Sample No: 833325

Site: Li Tungsten Lab Job No: G856

Date Sampled: 05/25/07 Matrix: SOLID
Date Received: 05/26/07 Level: LOW

% Moisture: 17.7

## METALS ANALYSIS

Analytical Result Instrument Units: mg/kg Detection <u>Analyte</u> (Dry Weight) <u>Limit</u> <u>Qual</u> M Arsenic 26.1 1.1 Ρ Lead 20.3 0.66 ₽

#### BLANKS

Lab	Name:	STL_EDIS	ON				
Lab	Code:	12028_	Lab	Job No.: _G856		Batch No.:	22673_
Prep	paratio	on Blank	Matrix	(soil/water): SOII	L		

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

    Analyte	Initial Calib. Blank (ug/L)	C	Cont		uing Cali lank (ug/			C		Prepa- ration Blank	C	
Aluminum_		T	<del></del>	T	1	-	1	$\overline{}$	¦		1	
Antimony_		-i-i		i –		-i-		-	i i —		i-	NE
Arsenic	4.7	ט	4.7	U	4.7	ט	:	i_	i i —	0.470	TT	ļΡ
Barium		_ii		Ì	j	-i			; ; <del></del>		i	NF
Beryllium		-i-i	" I'	i-		-i-	1		i i —	1804	¦-	NF
Cadmium		_i_i		i-		-i-		_			i-	NF
Calcium		_i_i		i_		-i-		i_i			-	NF
Chromium_		_i_i		iΞ		-i-		_ -	i i —	70.4	i –	NE
Cobalt		_ _		ΙŢ		-i		i_i	i i —		i –	NR
Copper		_ _		ĬΞ		_i_		— i - i	ij		i – i	NR
Iron	· <b></b>	_ _		1_		_ [ _		i_i	i —		i –	NR
Lead	2.7	ט	2.7_	U	2.7	_ ับ			i i —	0.270	יש i	P
Magnesium		_ _		<u> </u> _		Ì		i_i_i	i —	<del></del>	i	NR
Manganese		_ _				_		i _ i	j 🗆		i – i	NR
Mercury		_ _		_					i		i – i	NR
Nickel	******	_		1_				_i_i			i	NR
Potassium		_ _		_	l	_ _		_  _			i	NR
Selenium_		_ _		1_	l	_ _		_			i_ i	NR
Silver		. _	** ****	<b> </b> _	l	_ _		_	1_			NR
Sodium		.   _  .	770.0	_		_ _	1	_			i _ i	NR
Thallium_	<del>.</del>	.   _   .		<u> </u> _		. _		_	1_		_ i	NR
/anadium_		.   _   .		_		. _		_[			_ i	NR
Zinc	· · · · · · · · · · · · · · · · · · ·	. _ .	···	_		_ _		1_1	1		[ <u>_</u>	NR
Molybdenu				1		1		1 1	1		_i	NR

Blank Results Summary

### BLANKS

Lab Name: STL_EDI	SON			
Lab Code: 12028_	Lab Job No.: _G856		Batch No.: 22	2673_
Preparation Blank	Matrix (soil/water):			
Preparation Blank	Concentration Units (ug/L o	or ma/ka):		

       Analyte	Initial Calib. Blank (ug/L)	c	Cont		uing Calib lank (ug/L 2			C	Prepa- ration Blank	  -  -  -	       M
Aluminum_				Ī_		İ		<u> </u>		-	NR
Antimony_		_[_[		Ĺ		i_	<u> </u>	1	j	i	NR
Arsenic		_ _	4.7	Ū	4.7	Ū	4.7	įυį		ij	Р
Barium		1 - 1		İ_	i	İ_		Ιİ	ii	ĺ	NR
Beryllium		_		Ĺ		İΞ		iΞi		i	NR
Cadmium		_ _		_		Ĺ		i	<u> </u>	ĺ	NR
Calcium		_ _		ĺΞ		i_		įΤį		i	NR
Chromium_		_ _		<u> </u>		ĺΞ		i⊒i		i	NR
Cobalt	TV	_ _		1_		Ĺ		İΞİ		i	NR
Copper		_ _		_				ĬΞĬ		Ì	NR
Iron		_ _		_		_		i_i		İ	NR
Lead		_ _	2.7_	ַ ע	3.0_	В	2.7	שׁ		ĺ	P
Magnesium	11.5	_ _				_		İ_İ		İ	NR
Manganese	·-	_ _		_		<u> </u>					NR
Mercury		_ _		_						Ì	NR
Nickel		_ _		<u> </u>		_		ĺΞĺ			NR
Potassium		. _ .		_		_					NR
Selenium_		.  .		_		_		<u> </u>			NR_
Silver		.     .		_		_	l			ÏÌ	NR
Sodium		. _ .	<del>, _</del>				1	<u> </u>			NR_
Thallium_		. _ .		_		_		1_1		ΪÌ	NR_
Vanadium_	****	. _ .	·	_		_		<u> </u>			NR_
Zinc		. _ .		_		_				įί	NR
Molybdenu	***	. _ .				_		<u> </u>		Ϊİ	NR_
		1				-		_i_		iί	_

#### INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: SIL_EDISON	V	 
Lab Code: 12028_	Lab Job No.: G856	 Batch No.: 22673
Initial Calibration	Source: INORG VENT_	
Continuing Calibrati	on Source: INORG VENT	

	Initia	al Calibr	ation	•	Continui		ibration	j	i
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum_		 				1		<del></del> ¦	N
Antimony_			i					i Ti	N
Arsenic	5000.0	_4971.36	99.4	5000.0	5006.36	100.1	5043.22	100.9	P
Barium		l	Ī	i	j	İ	i	i i	N
Beryllium			i			i — —		i	N
Cadmium			j			i ——		¦	N
Calcium			ĺ					i	N
Chromium_			<u> </u>			i —		<u>                                </u>	N
Cobalt				i ——				i	N
Copper					· · · · · · · · · · · · · · · · · · ·			i	N.
Iron			i						N.
Lead	10000.0	10122.82	101.2	_10000.0	10177.29	101.8	10306.39	103.1	P
Magnesium				<u> </u>					N.
Manganese								—	N.
Mercury					-			l — - i	N.
Nickel									N.
Potassium					***************************************		-		N
Selenium_								i	N.
Silver				· · · · · · · · · · · · · · · · · · ·	- Vila				N
Sodium									N.
Thallium_	-							· —— ·	N
/anadium_									N
Zinc									N
Molybdenu			i						NI

<sup>(1)</sup> Control Limits: Mercury 80-120; ICP Metals 90-110; Furnace AA Metals 80-120

Calibration Summary

#### INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: STL_EDISON			<del></del>	
Lab Code: 12028_ Lab Job N	Jo.: G856	Ba	tch No.:	22673_
Initial Calibration Source:	INORG VENT			
Continuing Calibration Source:	INORG VENT			

Concentration Units: ug/L

	Initial	Calibr	ation	İ	Continui	ng Cal:	ibration		iί
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum					]				<u>_</u>
Antimony_	i		i	i	<u> </u>				N
Arsenic			i ——	5000.0	5015.08	100.3	5128.62	102.6	P
Barium	i			i —	i <del>-</del>	Ì	<del>_</del>		N
Beryllium			i —						N.
Cadmium	i		i			i ——			N
Calcium	i					i ——		<u> </u>	N.
Chromium_			i ——			i i			N.
Cobalt			<u> </u>					i —	N.
Copper									N
Iron									N
Lead			i	10000.0	10180.81	101.8	10422.68	104.2	P
Magnesium			i —	i —				- +	N
Manganese 🗀			i ——		*******		<del></del>		N
Mercury			i — :	777.1		' <del></del>	-		N
Nickel		<u> </u>	i — i				*****	!	N
Potassium _			i		77111				N
Selenium_ _			ii						N
Silver	i		ii						N
Sodium	j	. Ni	i — i						N
Thallium_ _			i — i						N
Janadium_ _			i —— i				<del></del> '		NI
Zinc	ii		<del>  </del>			——¦			NI
Molybdenu			i ——— [			i	i		NI

(1) Control Limits: Mercury 80-120; ICP Metals 90-110; Furnace AA Metals 80-120

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lap	Name:	STL_EDISON	Woman	***************************************
Lab	Code:	12028_	Lab Job No.: G856	Batch No.: 22673

Initial Calibration Source: INORG VENT\_\_

Continuing Calibration Source: INORG VENT\_\_

Concentration Units: ug/L

l	Initial	Calibr	ation	Ī	Continui	ng Calib	oration	j	i
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	1
Aluminum_				]	1	1 1			_  N
Antimony_			i			i — i -			N
Arsenic				5000.0	_5198.59	104.0	V	i	P
Barium			i	j <del></del>	i	j		ii	N
Beryllium			i	i		;; _ 			N
Cadmium						ii-	***	¦;	N
Calcium	i				ì ————	-		¦¦	N
Chromium	i_	·	[	i ———		¦ ——		<del></del>	N
Cobalt	i		i			-	<del></del>	¦	N.
Copper						¦¦-			N.
Iron					<del></del>	<del></del>	Torono	¦	N
Lead	i -		i ——	10000.0	10619.93	-  106 2		¦	P
Magnesium			<u> </u>		- 0 0 2 3 1 3 3	-00.2	···	¦	NI
Manganese	i	<u> </u>	ì ———					¦'	M
Mercury						-	<del></del>	¦¦	M
Nickel	i							¦ ———	N
Potassium	<u></u>	- Marie	i — i	**					N
Selenium_	i_					-			N
Silver_	i -					<u> </u>			NI
Sodium	<del>                                    </del>								N
Thallium								——	NI
/anadium		····	· · · · · · · · · · · · · · · · · · ·			——			NE
Zinc									NE
folybdenu		-*			·	-			NF

(1) Control Limits: Mercury 80-120; ICP Metals 90-110; Furnace AA Metals 80-120

### ICP INTERFERENCE CHECK SAMPLE

Lab Name:	STL EDISON	
	<del>-</del>	

Lab Code: 12028\_ Lab Job No.: \_G856 \_\_\_\_\_ Batch No.: 22673\_

ICP ID Number: TRACE1 TJA61 ICS Source: INORG VENT\_\_\_

ı				WILL.			-w	
	т	rue	   In	itial Foun	đ	ļ 	Final Foun	ıd.
	Sol.	Sol.	Sol.	Sol.		Sol.	Sol.	
Analyte	Α	AB	A	AB	%R	A	AB	%R
Aluminum_	500000	500000	483486	492203.9	98.4	474031		99.
Antimony_	ĺ	100	i <sup>-</sup>		95.7	i	: —	87.0
Arsenic		100		93.6	93.6			104.8
Barium		100		-	106.9		· ———	108.0
Beryllium		100		· ——-	99.1		· — —	100.5
Cadmium		100			96.0		; <del></del>	99.6
Calcium	500000	500000	485290	: ——	· —	·	:	· —
Chromium_	l	100	i	97.8	. —	· <del></del>	: <del>-</del>	98.8
Cobalt		100		:	96.7			99.0
Copper		100			100.6			100.4
Iron	200000	_200000	199814	_200775.6	•			•
Lead	l	100	<u> </u>		97.8	_	_	98.1
Magnesium	500000	_500000	520086	524011.1	104.8	505969	529129.9	105.8
Manganese	l	100			_97.3	_	_	97.3
Mercury	l	<u></u>		***************************************				
$ exttt{Nickel}$		100		99.5	99.5		100.3	100.3
Potassium		<u> </u>			i –			
Selenium_		100		102.1	102.1		102.9	102.9
Silver		100		103.9	103.9		103.7	!
Sodium					ĺ			
${ t Thallium} $		100		97.3	97.3	i	104.2	104.2
Vanadium_		100		95.6	95.6			97.9
Zinc		100			_ _97.6		99.5	: —
					_ i			

ICP Interference Check Results Summary

#### ICP INTERFERENCE CHECK SAMPLE

Lab	Name:	$\mathtt{STL}$	EDISON	
		-		 

Lab Code: 12028\_ Lab Job No.: \_G856 \_\_\_\_ Batch No.: 22673\_

ICP ID Number: TRACE1 TJA61 ICS Source: INORG VENT

ı <del></del>				=1.774.01							
! 	T	rue	In	itial Fou	nd	]	   Final Found				
Ì	Sol.	Sol.	Sol.	Sol.		Sol.	Sol.				
Analyte	A	AB	A	AB	%R	A	AB	&R			
Aluminum_	500000	500000				   507300	508551.8	1101.7			
Antimony_	l	100		İ		i	<del>-</del>	105.2			
Arsenic		100			_ j		· · · · · · · · · · · · · · · · · · ·	102.3			
Barium	l	100		į				114.1			
Beryllium		100			- i ———			102.7			
Cadmium		100			- i			102.0			
Calcium	500000	_500000			- i	512176	_506506.2				
Chromium_	İ	100			- i	.,, 		102.6			
Cobalt	<u> </u>	100			- i	i ——— i		102.1			
Copper		100			- i	¦ ;		103.9			
Iron	200000	200000			-	207892	206429.4	,			
Lead	<u> </u>	100			-i		_	104.4			
Magnesium	500000	500000			-i	540096	_536031.9				
Manganese		100			-i		_	97.0			
Mercury		i			- i						
Nickel		100	<u> </u>		-		103.0	103.0			
Potassium		i		***	-¦			1			
Selenium_		100			-   <del></del>	i ——— i	104 3	104.3			
Silver		100		-		i i		106.4			
Sodium				-	- i	i		1			
Thallium_		100			·	i i	1.02.3	102.3			
Vanadium_		100			i — —	<u> </u>		104.0			
Zinc		100			i ——	i —— i		102.3			
			i			<u> </u>					

### ICP INTERFERENCE CHECK SAMPLE

Lab	Name:	STL_EDISO	N	_	1117-12	
Lab	Code:	12028_	Lab Job No.: _G856		_ Batch No.:	22673_
ICP	ID Numb	er: TRACE	1 T.TA61	ICS Source:	TMODE VENT	

ļ		rue	Ini	tial Foun	at j	F	'inal Four	nd
	Sol.	Sol.	Sol.	Sol.	ĺ	Sol.	Sol.	
Analyte	A	AB	A	AB	%R	A	AB	%R
Aluminum_		l			! 			
Antimony_								-i
Arsenic		100		102.3	102.3			- i
Barium					j i		***************************************	-i
Beryllium		<u> </u>			i	i	**	`i
Cadmium								-
Calcium		l			ii			-i
Chromium_		li					71.0	-¦
Cobalt			i					-
Copper			i					- {
Iron			i		<del></del>			•¦
Lead		100	j	104.4	104.4	.	····	·
Magnesium					i			-¦
Manganese							N-11-N	-
Mercury			i				****	·¦
Nickel			i	7118		!-		·
Potassium						.		·¦
Selenium_						\-		·
Silver			/·	i		·		·¦
Sodium		i		··			77/6-	¦
Thallium_					·	-	- 1974	·
Vanadium_		i		 			*****	¦
Zinc			;	- Western	.	¦-	1	<del> </del>
			i.			<u>-</u>	**	!

# SPIKE SAMPLE RECOVERY

Lab Name: STL_EDISON	BSS053007
Lab Code: 12028_ Lab Job No.: G856	Batch No.: 22673_
Matrix (soil/water): SOIL	Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control    Limit     %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	c	Spike   Added (SA)	&R	    Ω	     N
Aluminum_					<u>-</u>			¦-	   NR
Antimony_	i i	****	i-i	Milks de	j			-	NR
Arsenic	75-125	196.6345	i-i	0.4700	וֹטוֹ	200.00	98.3	-	P
Barium	ii		i-i		ii			¦-	NR
Beryllium			i-i		i-i		7	¦-	NR
Cadmium_	i	***	i-i		i-i			¦-	NR
Calcium	ii	*****	i	****	i-i			¦-	NR
Chromium_	i		i-i		i-i			—	NR
Cobalt	ii		ii		i-i			-	NR
Copper	ii	***	iTi		i-i			-	NR
Iron			i-i		i-i	I ,		-	NR
Lead	75-125	52.0079	i-i	0.2700	บ	50.00	104.0	-	P_
Magnesium			iΞi					-	NR
Manganese			i-i	***	i-i			-	NR
Mercury			i-i		i Ti			-	NR
Nickel		·····	i-i	****	i-i			-	NR
Potassium			iΞi		i i				NR
Selenium_			iΞi		-i		!	-	NR
Silver		1.1.	iΤi					-	NR
Sodium	i		iΞi		-1	<u> </u>		-¦	NR
Thallium_	i		i-i		'-¦		! 	-¦	NR
Vanadium_			-		-				NR
Zinc			i i		-	[ _	 		NR
Molybdenu			i – i	- <u></u>	-			<u>!</u>	NR
	i		i Ti	···	-1		···	-¦	

Comments:								
***	<u> </u>	-			**************************************	* **	 	
				··	· 1817-12		 	
	<u>.</u>	·	-	·	**		 72.101	

Spike Sample Recovery Summary

### SPIKE SAMPLE RECOVERY

Lab Name: STL_EDISON	833315MS
Lab Code: 12028_ Lab Job No.: G856	Batch No.: 22673_
Matrix (soil/water): SOIL	Level (low/med): LOW

% Solids for Sample: \_90.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control   Limit     %R	Spiked Sample Result (SSR)	c	Sample Result (SR) C	   Spik   Added		&R	    Q	     M
Aluminum	[		<del></del>					_	NR
Antimony			'i-i		\		74	¦-	NR
Arsenic	75-125	216.5259	i-i	2.6539	22	1.73	96.5	¦-	P
Barium			iti		¦	1.,5		¦-	NR
Beryllium			iΞi	-		¦		¦-	NR
Cadmium		**	i-i			¦	***************************************	¦Τ	NR
Calcium			iΞi	1		¦	WT to make a	l٦	NR
Chromium_			<u>                                     </u>		¦	i		i-	NR
Cobalt			<u>i     i                               </u>		1	i	****	¦-	NR
Copper			<u> </u>			¦		i-	NR
Iron	1		ĬΞÌ			i		i	NR
	75-125_	63.9521_		6.9840	5.	5.43	102.8	j-	P
Magnesium						į-		i –	NR
Manganese						i	*	<u> </u>	NR
Mercury							*****	-	NR
Nickel	l		]_[		-	—- i -		i – i	NR
Potassium			$\lfloor - \rfloor$					i – i	NR
Selenium_			1_1.			i		i – i	NR
Silver			_ .					i i	NR
Sodium			۱_۱			i		i – i	NR
Thallium_			_ .						NR
Vanadium_			_ _			i-			NR
Zinc			<u> </u> _ .				***	_ :	NR
Molybdenu						i-			NR

Comme	its:						
				-	 	 	 _
		 	17.11		 	 	
		 	**		 	 	 

#### DUPLICATES

		LCSSD055-D
Lab Name:	STL_EDISON	 

Lab Code: 12028\_ Lab Job No.: \_\_G856 \_\_\_\_\_ Batch No.: 22673\_

Matrix (soil/water): SOIL\_ Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: \_100.0

### Concentration Units (ug/L or mg/kg dry weight): MG/KG

ĺ	Control		i		i	İ	Ιί	<u>i</u> i
Analyte	Limit	Sample (S)	C	Duplicate (D)	cį	RPD	ĮΩ	М
Aluminum_			-¦		T	<u> </u>	-	NR
Antimony_			i	······································	i i	i ———	i —	NR
Arsenic		81.3752	i i i	85.5344	i-i	5.0	i-	P
Barium —	i	<u> </u>	i – i i		iTi		-	NR
Beryllium			í Ti		-		i-	NR
Cadmium			i – i i	W.	-	<u> </u>		NR
Calcium_			i – i i		iti	i	-	NR
Chromium					-	<u> </u>	ļ	NR
Cobalt	i		i – i i		-	i	1-1	NR
Copper			-;		-	<u> </u>	¦-	NR
Iron			·		i-i	¦	¦-	NR
Lead		85.5540	-	87.8642	-	2.7	1-1	P
Magnesium					¦¦		-	NR
Manganese	i		-i i		i-i	¦	-	NR
Mercury_	i		ii	· +·	<del></del>	¦	-	NR
Nickel			-i i		i-;		-	NR
Potassium			-i i		i-i		1-1	NR
Selenium_			-i i		-		-	NR
Silver			-i i		-	[	i-i	NR
Sodium			-i i		-	¦	-	NR
Thallium_			-i i		-		11	NR
Vanadium_	i		-i i	97-4 <sub>m</sub>		¦;	. — .	NR
Zinc	****		-	***		<u> </u>	:	NR
Molybdenu			-; ;		-		: — :	NR
ĺ			−i i		-	i	<u> -</u>	

Sample and MS Duplicate Results Summary

LAB SAMPLE NO.

#### DUPLICATES

			833315D
Lab	Name:	STL_EDISON	_

Lab Code: 12028\_ Lab Job No.: \_\_G856 \_\_\_\_\_ Batch No.: 22673\_

Matrix (soil/water): SOIL\_ Level (low/med): LOW\_

% Solids for Sample: \_90.2 % Solids for Duplicate: \_90.2

# Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control   Limit	   Sample (S)		 				
Maryce	nrmrc l	Sample (S)	c	Duplicate (D)	c	RPD	ļΩ	M
Aluminum		!	Τ¦		<del></del>			NR
Antimony_			i~i		1-1		-	NR
Arsenic	0.6	2.6539	i-i	2.9610	-	10.9	¦~	P
Barium	i		i-i	 	i-i		¦-	NR
Beryllium			-		-		<u> </u>	NR
Cadmium			i-i		¦-¦	¦	-	NR
Calcium			i-i			<u> </u>	¦-	NR
Chromium				· · · · · · · · · · · · · · · · · · ·	-		¦-	NR
Cobalt			-	<del></del>		¦	!-	NR
Copper			-		¦-¦	¦	<u> </u>	NR
Iron					¦-¦		¦-	NR
Lead		6.9840	<del>-  </del>	7.4080	-	5.9	!-	P
Magnesium			-		¦-¦	J	¦-	NR
Manganese		<u> </u>	-;;	70.		¦	¦	NR
Mercury			-ii		-		1-	NR
Nickel		· · · · · · · · · · · · · · · · · · ·	-11				<u> </u> -	NR
Potassium			-;;			ļ —— ļ	¦-	NR
Selenium			-i i	1	-	¦	<u> -</u>	NR
Silver		****	-¦ i		-:	¦	¦-¦	NR
Sodium	ii	*****	-;;		-¦	¦	¦-¦	NR
Thallium			-;;		-;	¦	¦¦	NR
/anadium	i i		-;;		-¦	! }	{-{	
Zinc			-;;	i	-	¦	<u> </u>	NR
Molybdenu			-					NR
- i-	!		-!!		-!	!!	!-!	NR

### LABORATORY CONTROL SAMPLE

Lab Name: STL_EDIS	ON	
Lab Code: 12028_	Lab Job No.:G856	Batch No.: 22673_
Solid LCS Source:	ERA D055	
Aqueous LCS Source	:	

	Aque	ous (ug/L)	j		Solid	(mg/kg)		
Analyte	True	Found	%R	True	Found C	Limi	.ts	%R
Aluminum_								<del></del>
Antimony_			i i			<del></del>		
Arsenic		i _	i	88.8	81.4	71.8	106.0	91
Barium			i		-			
Beryllium			,	<u> </u>	i - i	<del></del>		
Cadmium						<del></del>		<del></del>
Calcium			i			' <del></del>		
Chromium_		i -						
Cobalt		- i -	i		;;;		!	
Copper			i		<u></u>			<del></del>
Iron		<u> </u>	i		_ [			
Lead				88.9	85.6	72.7	105.0	96 3
Magnesium		j	i					50.3
Manganese							<del></del> ¦	
Mercury				i				
Nickel		j			i-l	-	<u> </u>	
Potassium		i	i-				!	
Selenium_	i							
Silver		<del></del>	-			-		
Sodium	i	i —					!	
[hallium]		i	i-	<u> </u>				
/anadium_		<u> </u>			;;;	-	<del></del>	
Zinc			-			-	i	
Molybdenu	i_		-				¦-	

Laboratory Control Samples Results Summary

#### LAB SAMPLE NO.

# ICP SERIAL DILUTION

Lab Name: STL_EDISON	833315L
Lab Code: 12028_ Lab Job No.: _G856	Batch No.: 22673_
Matrix (soil/water): SOIL_	Level (low/med): LOW

[		Serial	[	8		$\Gamma^-$
	Initial Sample	Dilution	1	Differ-		1
Analyte	Result (I) C	C   Result (S)	C	ence	ĮQ	М
Aluminum	I	-			-	   NR
Antimony	1	- [	-:-:	i ——i	¦-	NR
Arsenic	11.97	23.50	- =	_100.0_	¦-	P
Barium	i	·	-; -; ;			NR
Beryllium			-i-i		-	NR
Cadmium_	i		-¦-¦	<del></del>	<del></del> -	NR
Calcium_			- -		-	NR
Chromium			-¦-¦	¦ <del></del> ¦	1-	NR
Cobalt			- -		-	NR
Copper	i		-i~i	¦	1-	NR
Iron			-;-;	¦ ———		NR
Lead	31.50	28.30	-i-i	10.2	-	P
Magnesium			- <u>i-i</u>	i—i	i-i	NR
Manganese			-i-i		i-i	NR
Mercury			i-i	[ <u> </u>	i	NR
Nickel			-i-i		-i	NR
Potassium			-i-i		i-i	NR
Selenium_			-   -	i i	!-!	NR
Silver			-;-;			NR
Sodium			-¦-;;		!-!	NR
Thallium_			-i-i i		!-!	NR
Vanadium_			-ji		:-:	NR
Zinc			-i-i i		:-:	NR
			-i-i i		i i	

### ANALYSIS RUN LOG

Lab Name:	STL_EDISON	Contract:
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Lab Code: 12028\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_ SDG No.:22673\_

Instrument ID Number: TRACE1 TJA61\_ Method: P\_

Start Date: 05/30/07 End Date: 05/30/07

<u> </u>	<del></del> .	1	1		1									~		1.											_	
   Lab	 	] ]												A	na.	тЪ.	te	S										
Sample	D/F	Time	   %	R	I <sub>A</sub>	Is	lΑ	l B	ĺΒ	lc	lc	C	lc	١c	l F	Ιp	м	lм	l tr	N	K	10	۱۸	) NT	l Tr	177	Z	
No.	-,-						S								E			N			1	•	G	•	,	Į V I		M   O
į.			Ϊ		i	ľ	ĺ	i	i –				-	`	-	-	<b>'</b>		1	<del> </del>	l I	"	ן ט ו	l 🔼	1 11	 	   14	[ ]
1CAL-BLK	1.00	1207			۱ <u>-</u>	x	$\bar{\mathbf{x}}$	x	x	x	x	x	x	x	X	x	x	x	¦-	x	-	_   X	<u>-</u>	 	<u>_</u>	_   x	_ X	_  X
T1CAL1_	1.00	1212	j		- '		x	•		x	х	,	X		r	X	X	X	¦-	X	¦ —	X	X	¦-	X	X	X	X
T1CAL2	1.00	1217	i		x	x	X	х	х	,			x	•		x	Х	Х	i –	x	-	x	x		x	X	!!	X
T1CAL3	1.00	1223			- :	:	x	•			Х	Х	Х	x		X	x	x	- 	X		•	X	¦-	x	X	: :	X
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ICB/CCB_	1.00	1238				i –	х	i – i			_	_	-	-	-	Х	_		-		-	-	-	¦	-	-	i – ¦	! 
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ZZZZZZ_	5.00	1412			i	-i	Ξi	-i	-i	-i	-i		-i	-i	~	-¦	-¦		-¦	-¦	~-¦	٦¦	-¦	-	-¦	-¦	.	-:
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Analysis Run Log

### ANALYSIS RUN LOG

Lab Name: STL_EDISON	Contract:
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Lab Code: 12028\_ Case No.: \_\_\_\_ SAS No.: \_\_\_ SDG No.:22673\_

Instrument ID Number: TRACE1 TJA61\_ Method: P\_

Start Date: 05/30/07 End Date: 05/30/07

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### ANALYSIS RUN LOG

Lab Name: STL_EDISON	Contract:
Lab Code: 12028_ Case No.:	SAS No.: SDG No.:22673_
Instrument ID Number: TRACE1 TJA61_	Method: P_

Start Date: 05/30/07 End Date: 05/30/07

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